

**REMARKS**

Claims 1-31 and 34 are pending.

Claims 1-6, 25-29 and 34 were examined and rejected.

The claims are not amended.

Reconsideration of this application is respectfully requested.

***Claim Rejections – 35 U.S.C. § 103: Huang in view of Yakhini***

Claim 1-6 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Huang (6,605,432) in view of Yakhini (EP1,288,313).

In order to meet its burden in establishing a rejection under 35 U.S.C. § 103 the Office must first demonstrate that the combined prior art references teach or suggest all the claimed limitations. *See Pharmastem Therapeutics v. Viacell et al.*, 2007 U.S. App. LEXIS 16245 (Fed. Cir. 2007) ("the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make [every element of] the composition or device, or carry out the [entire] claimed process, and would have had a reasonable expectation of success in doing so," (citing *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); and see *Omegaflex, Inc. v. Parker-Hannifin Corp.*, 2007 U.S. App. LEXIS 14308 (Fed. Cir. 2007) ("[t]he Supreme Court recently explained that 'a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art,' (citing *KSR Int'l Co.* at 1741); and see *Dystar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006) ("[o]nce all claim limitations are found in a number of prior art references, the factfinder must determine '[w]hat the prior art teaches, whether it teaches away from the claimed invention, and whether it motivates a combination of teachings from different references,' (citing *In re Fulton*, 391 F.3d 1195, 1199-1200 (Fed. Cir. 2004)); and see (citing *KSR Int'l Co.* at 1740).

As best understood by the Applicants, the Examiner has attempted to establish this rejection by arguing that Huang's CpG polynucleotide-containing arrays, in combination with Yakhini's UNA oligonucleotide array, renders the instant

claims obvious. In making this rejection, the Examiner argues that the instant claims are obvious because Huang's array can be modified to contain UNA nucleotides.

However, Huang states that his method is highly accurate, sensitive, and efficient (see, e.g., the first paragraphs of the Summary of the Invention and of the Detailed Description, among other places). Huang's makes no mention of low signal strength, probe secondary structure, or of any other limitation that could be cured by use of a UNA nucleotide. Thus, Huang provides no reason to modify his probes to contain a UNA nucleotide. Without the roadmap provided by the instant patent application, the Applicants submit that this motivation does not exist.

Further, the Applicants submit that according to Huang's disclosure, Huang's probes are very long and PCR generated, and thus not synthesizable using UNA nucleotides. Huang does not discuss the use of oligonucleotide probes, nor synthetic probes. Thus, it is neither obvious nor possible to alter Huang's probes in the manner proposed by the Examiner.

In dismissing the Applicants' prior arguments, the Examiner stated that "KSR forecloses the argument that a specific teaching, suggestion or motivation is required to support a finding of obviousness". However, that is not the case. Moreover, the Patent Office's own guidelines for determining obviousness under 35 U.S.C. §103 in view of the KSR decision (Federal Register Vol. 72, No. 195; published, October 10, 2007) states that one of skill in the art must have a reason for combining references.

In their prior response, the Applicants made the argument that Huang relies on PCR methods for amplifying the genome samples thus there would be no need to increase hybridization efficiency. In response the examiner has stated that no support for this assertion. However, support for this assertion is found in Huang (6,605,432) several times including in Column 14 in the following paragraph:

"The endonuclease restricted amplicons are then amplified, preferably using PCR as is generally described above in connection with the preparation of CpG dinucleotide rich fragment ...". (emphasis added by Applicants).

Thus, Huang describes using probes that are very long and PCR generated. It would be neither obvious nor possible to replace Huang's probes with chemically synthesized probes containing UNA nucleotides.

The Applicants submit that this rejection has been adequately addressed. Withdrawal of this rejection is respectfully requested.

***Claim Rejections – 35 U.S.C. § 103: Huang in view of Yakhini and Ahern***

Claims 25-29 and 34 are rejected under 35 U.S. C 103(a) as allegedly being unpatentable over Huang (6,605,432) in view of Yakhini (EP1,288,313) and Ahern (The Scientist 1995).

As noted above, Huang cannot be combined with Yakhini to render the instant claims obvious because: a) one of skill in the art would have no motivation to make the modification proposed by the Examiner and b) it is not possible to modify Huang's probes in the manner proposed.

Ahern provides a kit. Ahern's kit fails to meet the deficiencies of Huang and Yakhini discussed above and, as such, this rejection should be withdrawn.

Withdrawal of this rejection is requested.

***Claim Rejections – 35 U.S.C. § 103: Huang in view of Kutyavin***

Claim 1-6 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Huang (6,605,432) in view of Kutyavin et al (US5,912,340).

Kutyavin describes oligonucleotides containing UNA nucleotides. The examiner has stated that it would be obvious for one skilled in the art to modify the array of probes taught by Huang by changing the probes of Huang so that the modified probes contain at least one UNA as suggested by Kutyavin.

As noted above in the arguments against combining Huang with Yakhini, Huang cannot be combined with Kutyavin to render the instant claims obvious because: a) one of skill in the art would have no reason to make the modification proposed by the Examiner and b) it is not possible to modify Huang's probes in the manner proposed. The same reasoning may be applied to this combination of references.

The Applicants submit that this rejection has been adequately addressed.

Withdrawal of this rejection is respectfully requested.

***Claim Rejections – 35 U.S.C. § 103: Huang in view of Kutyavin and Ahern***

Claims 25-29 and 34 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Huang (6,605,432) in view of Kutyavin et al (US5,912,340) and Ahern

As noted above, Huang cannot be combined with Kutyavin to render the instant claims obvious because: a) one of skill in the art would have no motivation to make the modification proposed by the Examiner and b) it is not possible to modify Huang's probes in the manner proposed.

Ahern provides a kit. Ahern's kit fails to meet the deficiencies of Huang and Kutyavin and, as such, this rejection should be withdrawn.

Withdrawal of this rejection is requested.

**CONCLUSION**

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone James Keddie at (650) 833-7723.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10031482-1.

Respectfully submitted,  
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Date: November 30, 2007

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